UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,954	02/06/2002	Susan E. Bach	091-0108	3721

27431 7590 06/21/2005

SHIMOKAJI & ASSOCIATES, P.C.
8911 RESEARCH DRIVE
IRVINE, CA 92618

EXAMINER	
TORRES, JUAN A	

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,954	BACH ET AL.	
	Examiner	Art Unit	
	Juan A. Torres	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02-06-02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the recitation in page 3 line 28 "314 and 316" is improper; it is suggested to be changed to "314 and 324".

Appropriate correction is required.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "High speed monolithic microwave integrated circuits (MMIC) quadrature phase shift keying (QPSK) and quadrature amplitude modulation (QAM) modulator".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation in line 20 of claim 18 "substantially identical" is vague and indefinite, because it is not clear what is substantially identical and is not substantially identical. The recitation in line 27 of claim 18 "substantially identical" is vague and indefinite, because it is not clear what is substantially identical and is not substantially identical.

Claims 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 recites the limitation "said second data bit" in line 25. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lapierre (US 6163230).

As per claim 1 Lapierre discloses a system for modulating an RF carrier comprising a lowpass filter with input connected to the RF carrier, said lowpass filter producing a first phase shifted carrier output (figure 3 block 17 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a highpass filter with input connected to the RF carrier, said highpass filter producing a second phase shifted carrier output (figure 3 block 18 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a data port for receiving data bit information (figure 2 input to blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); and a switch connected to an output of said lowpass filter and connected to an output of said highpass filter, said switch configured to select and output either said first phase shifted carrier output from said lowpass filter or said second phase shifted carrier output from said highpass filter

depending on a switching state, said switching state determined by said data bit information at said data port (figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11).

As per claim 2 Lapierre inherently discloses that the lowpass filter phase shifts the RF carrier approximately -90 degrees to produce said first phase shifted carrier output (column 4 lines 57-65 and figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11).

As per claim 3 Lapierre inherently discloses that the highpass filter phase shifts the RF carrier approximately +90 degrees to produce said second phase shifted carrier output (column 4 lines 57-65 and figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11).

As per claim 4 Lapierre inherently discloses a power divider configured to split the RF carrier into two equal amplitude signals and feed the RF carrier into said lowpass filter and into said highpass filter (figure 1 block 6 column 6 line 66 to column 7 line 34 column 7 lines 59-65 column 98 line 45-54 and column 11 lines 57-63).

As per claim 6 Lapierre discloses that the system is fabricated using MMIC (column 2 lines 24-28 column 4 lines 3-7).

As per claim 19 Lapierre discloses a method for modulating an RF carrier comprising a lowpass filter with input connected to the RF carrier, said lowpass filter producing a first phase shifted carrier output (figure 3 block 17 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a highpass filter with input connected to the RF carrier, said highpass filter producing a second phase shifted carrier output (figure 3

block 18 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a data port for receiving data bit information (figure 2 input to blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); and a switch connected to an output of said lowpass filter and connected to an output of said highpass filter, said switch configured to select and output either said first phase shifted carrier output from said lowpass filter or said second phase shifted carrier output from said highpass filter depending on a switching state, said switching state determined by said data bit information at said data port (figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lapierre (US 6163230) as applied to claim 1 above, and further in view of Plenge (US 5499271). Lapierre discloses claim 1. Lapierre doesn't disclose a notch filter centered about the RF carrier frequency, the data bit information at the data port being fed through the notch filter to the switch. The use of notch filters are very well known and Plenge discloses a notch filter centered about the RF carrier frequency (column 3 lines 51-63). Lapierre and Plenge are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre the notch filter disclosed by Plenge. The suggestion/motivation for doing so would have been to filtered-out RF carrier signals (Plengen column 3 lines 51-63). Therefore, it would have been obvious to combine Lapierre with Plenge to obtain the invention as specified in claim 5.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lapierre (US 6163230) as applied to claim 1 above, and further in view of Desrosiers (US 6434199). Lapierre discloses claim 1. Lapierre doesn't disclose that the system is fabricated using ASIC. The use of ASIC is well known and Desrosiers discloses that the system is fabricated using ASIC (column 1 lines 51-66). Lapierre and Desrosiers are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the ASIC implementation disclosed by Desrosiers. The suggestion/motivation for doing so would have been to use a typical implementation (Desrosiers column 1 lines 51-66). Therefore, it would have been obvious to combine Lapierre with Desrosiers to obtain the invention as specified in claim 7.

Claims 8-13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lapierre (US 6163230) and further in view of admitted prior art.

As per claim 8 Lapierre discloses a system for modulating an RF carrier comprising a lowpass filter with input connected to the RF carrier, said lowpass filter producing a phase shifted carrier output (figure 3 block 17 column 5 lines 50-59 and

column 9 line 53 to column 10 line 11); a highpass filter with input connected to the RF carrier, said highpass filter producing a phase shifted carrier output (figure 3 block 18 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a first BPSK modulator comprising a first lowpass filter with input connected to said first input, said first lowpass filter producing a first phase shifted carrier output (figure 3 block 17 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a first highpass filter with input connected to said first input, said first highpass filter producing a second phase shifted carrier output (figure 3 block 18 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a first data port for receiving a first data bit information (figure 2 input to blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); and a first switch connected to an output of said first lowpass filter and connected to an output of said first highpass filter, said first switch configured to select and output either said first phase shifted carrier output or said second phase shifted carrier output depending on a first switching state, said first switching state determined by said first data bit information at said first data port (figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a second BPSK modulator comprising a second lowpass filter with input connected to said second input, said second lowpass filter producing a third phase shifted carrier output (figure 3 block 17 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a second highpass filter with input connected to said second input, said second highpass filter producing a fourth phase shifted carrier output (figure 3 block 18 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a second data port for receiving a second data bit information (figure 2 input to blocks 21 and 22

column 5 lines 50-59 and column 9 line 53 to column 10 line 11); and a second switch connected to an output of said second lowpass filter and connected to an output of said second highpass filter, said second switch configured to select and output either said third phase shifted carrier output or said fourth phase shifted carrier output depending on a second switching state, said second switching state determined by said second data bit information at said second data port (figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11). Lapierre doesn't disclose the use in parallel of two PSK modulators and a power divider connected to an output of said first BPSK modulator and connected to an output of said second BPSK modulator, said power divider configured to produce a QPSK output vector sum of said output of said first BPSK modulator and said output of said second BPSK modulator. Admitted prior art discloses the use in parallel of two PSK modulators and a power divider connected to an output of said first BPSK modulator and connected to an output of said second BPSK modulator, said power divider configured to produce a QPSK output vector sum of said output of said first BPSK modulator and said output of said second BPSK modulator (figure 5 page 4 to page 6 paragraphs [0010] to [0012]). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator

(admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 8.

As per claim 9 Lapierre and admitted prior art disclose claim 8. Lapierre also discloses that the lowpass filter phase shifts the RF carrier approximately -45 degrees to produce said phase shifted carrier output (column 4 lines 57-65 and figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 9.

As per claim 10 Lapierre and admitted prior art disclose claim 8. Lapierre also discloses that the highpass filter phase shifts the RF carrier approximately +45 degrees to produce said phase shifted carrier output (column 4 lines 57-65 and figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the

prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 10.

As per claim 11 Lapierre and admitted prior art disclose claim 8. Lapierre also discloses that the lowpass filter and second lowpass filter phase shift the RF carrier an additional approximately -90 degrees to produce said first phase shifted carrier output and said third phase shifted carrier output, respectively (column 4 lines 57-65 and figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 11.

As per claim 12 Lapierre and admitted prior art disclose claim 8. Lapierre also discloses that the lowpass filter and second lowpass filter phase shift the RF carrier an additional approximately -90 degrees to produce said first phase shifted carrier output and said third phase shifted carrier output, respectively (column 4 lines 57-65 and figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11).

Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 12.

As per claim 13 Lapierre and admitted prior art disclose claim 8. Lapierre also discloses a power divider configured to split the RF carrier into two equal amplitude signals and feed the RF carrier into said lowpass filter and into said highpass filter (figure 1 block 6 column 6 line 66 to column 7 line 34 column 7 lines 59-65 column 98 line 45-54 and column 11 lines 57-63). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 13.

As per claim 16 Lapierre and admitted prior art disclose claim 8. Lapierre also discloses that the system is fabricated using MMIC (column 2 lines 24-28 column 4 lines

3-7). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 16.

As per claim 18 Lapierre discloses a BPSK modulation Lapierre discloses a system and a method for modulating an RF carrier comprising a lowpass filter with input connected to the RF carrier, said lowpass filter producing a first phase shifted carrier output (figure 3 block 17 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a highpass filter with input connected to the RF carrier, said highpass filter producing a second phase shifted carrier output (figure 3 block 18 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); a data port for receiving data bit information (figure 2 input to blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11); and a switch connected to an output of said lowpass filter and connected to an output of said highpass filter, said switch configured to select and output either said first phase shifted carrier output from said lowpass filter or said second phase shifted carrier output from said highpass filter depending on a switching state, said switching state determined by said data bit information at said data port (figure 3 blocks 21 and 22 column 5 lines 50-59 and column 9 line 53 to column 10 line 11). Lapierre doesn't

disclose a QAM modulation system using a first and a second QPSK modulators an attenuator and a vector summer. Admitted prior art discloses a QAM modulation system using a first and a second QPSK modulators (figure 5 blocks 510 and 520 page 4 to page 6 paragraphs [0010] to [0012]); an attenuator with input connected to an output of said second QPSK modulator (figure 5 block 527 page 4 to page 6 paragraphs [0010] to [0012]); and a vector summer connected to an output of said first QPSK modulator and connected to an output of said attenuator, said vector summer configured to produce a QAM output vector sum of said output of said first QPSK modulator and said output of said attenuator (figure 5 block 530 page 4 to page 6 paragraphs [0010] to [0012]). Lapierre and admitted prior art are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the phase-shift keying electronic circuit with distributed structure disclosed by Lapierre with the QAM modulator disclosed by the prior art. The suggestion/motivation for doing so would have been to produce a QAM modulator (admitted prior art page 4 paragraph [0010]). Therefore, it would have been obvious to combine Lapierre with admitted prior art to obtain the invention as specified in claim 18.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lapierre (US 6163230) and admitted prior art as applied to claim 8 above, and further in view of Plenge (US 5499271).

As per claim 14 Lapierre and admitted prior art disclose claim 8. Lapierre and admitted prior art don't disclose a first notch filter centered about the RF carrier

frequency, said first data bit information at said first data port being fed through said first notch filter to said first switch. The use of notch filters are very well known and Plenge discloses a notch filter centered about the RF carrier frequency (column 3 lines 51-63). Lapierre, admitted prior art and Plenge are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the QAM electronic circuit with distributed structure disclosed by Lapierre and admitted prior art the notch filter disclosed by Plenge. The suggestion/motivation for doing so would have been to filtered-out RF carrier signals (Plengen column 3 lines 51-63). Therefore, it would have been obvious to combine Lapierre and admitted prior art with Plenge to obtain the invention as specified in claim 14.

As per claim 15 Lapierre and admitted prior art disclose claim 8. Lapierre and admitted prior art don't disclose a second notch filter centered about the RF carrier frequency, said second data bit information at said second data port being fed through said second notch filter to said second switch. The use of notch filters are very well known and Plenge discloses a notch filter centered about the RF carrier frequency (column 3 lines 51-63). Lapierre, admitted prior art and Plenge are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the QAM electronic circuit with distributed structure disclosed by Lapierre and admitted prior art the notch filter disclosed by Plenge. The suggestion/motivation for doing so would have been to filtered-out RF carrier signals (Plengen column 3 lines 51-63). Therefore, it

would have been obvious to combine Lapierre and admitted prior art with Plenge to obtain the invention as specified in claim 15.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lapierre (US 6163230) and admitted prior art as applied to claim 8 above, and further in view of Desrosiers (US 6434199). Lapierre and admitted prior art disclose claim 8. Lapierre and admitted priot art don't disclose that the system is fabricated using ASIC. The use of ASIC is well known and Desrosiers discloses that the system is fabricated using ASIC (column 1 lines 51-66). Lapierre, admitted prior art and Desrosiers are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the QAM electronic circuit with distributed structure disclosed by Lapierre and admitted prior art with the ASIC implementation disclosed by Desrosiers. The suggestion/motivation for doing so would have been to use a typical implementation (Desrosiers column 1 lines 51-66). Therefore, it would have been obvious to combine Lapierre and admitted prior art with Desrosiers to obtain the invention as specified in claim 17.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
6-14-2005

KEVIN BURD
PRIMARY EXAMINER